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## CONTROL OF MOSQUITOES AND OTHER NOXIOUS INSECTS—A CHALLENGE \*

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My comments this morning will focus on California's problems in the control of mosquitoes and other noxious insects, but it is my hope that these problems should reflect in some measure those encountered in most parts of our Nation.

In California we recognize the problem of mosquitoes and other vectors as significant threats to our state's growth and development. With the population of California expected to reach 26 million by 1975, and to exceed 40 million by the turn of the century, and with the attendant urban, agricultural, industrial, and recreational expansion, it is inevitable that mosquitoes, domestic flies, and other noxious arthropods will also be competing for living space in the years ahead. This deduction is very obvious since we know that our vector problems today are largely man-made and are forever taking on new dimensions.

Specific mention has thus far been made of only two insect groups, mosquitoes and domestic flies, which are of greatest importance to public health, but aquatic midges and terrestrial gnats, both the biting *Leptocnops* species and the non-biting *Hippelates* eye gnats, are of growing significance in many areas. We are being made increasingly aware that these groups constitute major needs for intensified research and improved control technologies.

### The Mosquito Problem

Returning to the mosquito problem, we are encouraged by the in-

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creased emphasis and at least moderate progress made in recent years, both in mosquito prevention and source reduction. The inescapable fact remains, however, that with the projected plans for development of the water resources for maximum domestic, industrial, and agricultural use, the worst is yet to come. Based upon the extraordinary concern about water, exemplified by the variety of legislative bills being considered during the current session of the California State Legislature, it is apparent that water in all its ramifications receives uppermost attention in this state. The Bureau of Vector Control of the California State Department of Public Health, through its water projects activities in collaboration with the Public Health Service, has been successful in obtaining cooperation from the various federal and state water resources development agencies, leading to incorporation of mosquito prevention features in the design and construction of impoundments and water delivery structures. The obligation of these agencies terminates, however, upon delivery of new water to the local receiver. The difficult part remains largely to be done; the big job is that of getting the water-distributing agencies to provide for drainage in land newly developed for irrigation, and getting the farmers to use water properly, in accordance with the needs of the crop. A matter of great significance in which the mosquito abatement districts in the San Joaquin Valley have participated during 1960 is a proposed major drain, extending the length of the San Joaquin Valley, for removal of unusable

waste water. Such a provision appears to be a vital requirement to the present and future needs of mosquito control.

Liquid wastes from the household, the community, and industry continue to increase with the growing population.

At almost the other end of the spectrum, the snow mosquito problem in high elevation recreational areas has only begun to be experienced, and its full impact upon the public only awaits development of the recreational resources. During the past season we were able to initiate some basic studies of this problem.

The growing evidence during 1960 of mosquito resistance to organophosphorous insecticides, although not yet constituting a crisis, adds another uncertainty in mosquito control practice and points up the need for effective alternate control technologies.

### The Domestic Fly Problem

Our second great area of concern is the ever-present domestic fly problem. Most of you are more familiar with the vector problems emanating from water, so it may come as a surprise to hear a prediction that the domestic fly problem originating from solid organic wastes is progressing toward the point where it will rival or even exceed the mosquito and midge problems in importance. Like mosquitoes and midges, domestic flies are also taking advantage of a vast array of new man-made conditions in which to propagate. Again, agricultural, industrial, and community wastes are giving rise to these insects. The house fly and certain other domestic flies which were thought to be on the decline with the

disappearance of the horse as a mode of conveyance, and again during the magic spell of the DDT era, have reappeared with a vengeance. It is difficult even for those of us in the midst of it to appreciate fully the rapidly changing agricultural scene. Through the development of new technology, farm output has increased 35 percent since 1940, while the acreage used for crops has declined 2 percent. As an example, the egg production per unit has increased 47 percent in the past 15 years.

Where there once were poultry farms, there are now egg factories—and manure factories—and potential fly factories. The story of milk production is similar. California also leads all states in the slaughter of cattle. There are about 550 commercial feed lots in the state, which market over a million head of cattle annually. As these agricultural industries become surrounded by urban sprawl, fly control becomes an acute problem.

Another acute problem has to do with refuse disposal. Despite marked improvement in recent years, approximately 80 percent of California communities still are characterized by open-dump disposal of community refuse, and I doubt that this situation is much better in other areas of the country. In many areas of California, deficient refuse storage, collection, transportation, and disposal practices are responsible for a significant proportion of the fly problem. Again, with over 1,500 new civilian residents arriving in California each day, there is a critical need for city and county governments to accept the moral, financial, and technical responsibility for bringing the refuse management practices out of the Dark Ages and into the modern technological era. Unless we do some forward planning and take some forward action in this area, we shall be inundated by our own wastes.

In yet another area, it is evident that the vinegar fly, *Drosophila*, is one of the most critical problems confronting the food-processing industry in California today. Wineries, canneries, the dried fruit industry, and certain other food-processing establishments are continually harassed by this insect, which emerges from fruits awaiting processing and swarms in during the period of processing. The federal and state food and drug restrictions against *Drosophila* infestation of

processing plants and the products from such plants have resulted in a considerable loss of income to processors.

#### The Midge Problem

Now let us return to some consideration of the aquatic midge problem. The non-biting aquatic midges are taking advantage of the increasing amount of available water. Various impoundments, small and large, fresh and foul, from sea level to high elevations, are becoming production sites for prodigious numbers of these insects. Liquid waste discharges of community, industrial, and agricultural origin are proving to be ideally suited to these midges. Underground water recharge basins and major flood control and irrigation impoundments are also proving to be productive habitats. Clear Lake, in California, which only a decade ago, appeared to be relieved of its gnat problem through treatment with the chlorinated hydrocarbon insecticide, DDD, is again confronted with a baffling control need. After only three DDD treatments between 1949 and 1957, the fish population in this lake was found in 1959 to contain sufficiently high DDD levels to contra-indicate further use of this chemical. Unfortunately, no substitute material or method for controlling these midges is as yet available which can be applied safely, economically, and effectively, although the Lake County Mosquito Abatement District is diligently seeking ecological and toxicological solutions to this problem. It is also my understanding that some important ecological work on aquatic midges is presently being undertaken by the University of California at Riverside, and by the San Mateo County and Lake County Mosquito Abatement Districts.

The Clear Lake experience points up an important general environmental problem—whenever we change the environment in any way, we must take into account the potential consequences.

#### The Role of Local Mosquito Control Agencies in Meeting the Challenge

May we now turn to some administrative matters and consider the role of the local mosquito control agencies in meeting the challenge of control of mosquitoes and other noxious insects.

As I attempted to convey in my address before the 1957 meeting of the California Mosquito Control Associa-

tion, we have come to regard mosquito abatement districts as an integral part of the environmental health program of this state. The role of districts in the field of vector control is approaching the crossroads of decision. Some mosquito abatement districts have already undertaken midge, terrestrial gnat, and even domestic fly control. We have heard uncertainty and concern expressed about the propriety of mosquito abatement districts expanding their scope beyond mosquito control lest they invade the prerogatives of local health departments. Our viewpoint on this is that the agency best able to accomplish the objective be selected rather than to choose arbitrarily between agencies. The great variety of topography, climate, population pattern, economy, and dominant industries which characterize the various regions of our state has resulted in wide variation in the structure and pattern of public health practices within local departments. A similar situation exists within mosquito abatement districts. It is, therefore, not possible to say categorically which agency, mosquito abatement district or health department, should conduct various aspects of the program needed for vector control. This determination should be made locally after an analysis of the local circumstances.

The architects of the California Mosquito Abatement District Act foresaw the possibility that these districts might control insects other than mosquitoes for they are clearly empowered to control "mosquitoes, flies, and other insects." The flexible structure and latitude provided a mosquito abatement district affords it certain advantages not as clearly enunciated for local health departments. The ability of a district to abate insect sources beyond its boundaries has extraordinary advantages when dealing with such a dynamic program as flying insects, which understand no political boundaries.

Mosquito abatement districts in undertaking broadened *Diptera* control activities should do so with the closest kind of defined cooperative relationship with the local health department and the local agricultural agencies. The programs must complement each other. Furthermore, my remarks should not be taken as a suggestion that mosquito abatement districts immediately embark upon extended vector control operations. It occurs to me

that a careful entomological survey and appraisal of the vector problem should first be made and, subject to the findings, assuming public support for an expanded program exists, decision can be made concerning the kind and magnitude of effort required.

It is impressive to recognize that within our statewide local mosquito control programs there are approximately 50 entomologists and biologists equipped to accept broadened responsibility in vector control—quite a different picture from that of two decades ago. Vector control has become professionalized and placed on a firm scientific base.

It is possible to anticipate the question running through many of your minds at this point: What must be done and how much will it cost to achieve, for example, effective fly control? It is not possible to supply completely definitive answers to these questions, although an increasing amount of experience data is becoming available through our Bureau of Vector Control. It can only be ventured that the principles employed in mosquito control are generally compatible with the control of a variety of other vectors. The mosquito abatement district philosophy of source reduction and the practice of problem-solving would appear likewise to underlie each and all of the programs required. The place of public education is obvious. The need for reliable vector control methods is a matter over which we have all expressed major concern.

#### The Role of State Agencies in Meeting the Challenge

Now let us turn to a brief consideration of the role of state agencies in meeting this challenge. As many of you are aware, our department has been gradually developing a research program on mosquito ecology and control technology over the past decade. The California Mosquito Control Association has expressed its desire for an adequate research program to prepare the way for solving the increasingly complex problems of mosquito and related vector control. The urgency of a well-defined and properly balanced vector control research program in California has become more evident each year.

During 1960 it was possible to bring the vector research needs of California into perspective and to submit a concrete proposal. In June, Governor Brown appointed a 15-member special Committee on Public Policy Regard-

ing Agricultural Chemicals to study and review the many ramifications of this broad problem and to recommend a sound public policy. The primary interest was with respect to the public food supply. The committee concluded that at this time the food supply is safe and that no apparent hazard exists to the public from the present pattern of agricultural chemical usage in California. The various aspects and needs of this broad subject area were appraised by the committee and its report concluded with the recommendation that "... research in all areas pertaining to agricultural chemicals should be conducted by government, university, and industry, in order to increase understanding as to how pests may be controlled more successfully, and to establish ever more clearly how pesticides may be used without injury to public health." It further emphasized the need to "... search for better pest control measures, safer pesticides, and alternative measures, including biological control." By way of proposing a specific course of action, the committee recommended "... that an Ecology Research Center be established at the University of California, Davis, under the direction of the California State Department of Public Health ... to provide needed scientific information on vector control and other related problems involving pesticides, and ... to make available facilities and information to the Departments of Agriculture and of Fish and Game and other agencies, for needed use." It further urged that contractual funds be made available to underwrite needed research where competent investigators are located.

The plan of this proposed Ecology Research Center visualizes the closest kind of interagency cooperation among other interested state departments and particularly between the State Department of Public Health and the several branches of the University of California engaged in phases of research having a bearing upon vector control. The role of the Department is seen to be that of coordinating, stimulating, and conducting needed research on the highest priority vector problems requiring attention. A framework of research staff is needed to pursue research on ecology, ethology, biological control, physiology, toxicology, and certain engineering problems, as they relate to all vectors of concern. It is possible that

federal funds from the Public Health Service would be available to aid in the establishment of such a research center at the Davis campus of the University of California. It is our hope that steps will be taken during the current legislative session to implement this vital proposal. We shall, of course, look forward to continued research cooperation and collaboration from the U. S. Department of Agriculture, the U. S. Public Health Service, the U. S. Fish and Wildlife Service, and other federal, state, and local agencies in our joint program areas.

#### Objectives and Outlook

Now what are the objectives and the outlook? It is evident that the vector problems confronting us are complex, both as to cause and effect. It is no longer possible for any level or agency of government or industry to plan ahead for major projects without coordinating efforts, nor can these broad problems be distinctly defined and assigned to any one agency to deal with unilaterally. Cooperative teamwork between public health, agricultural, conservational, and educational agencies affords the only prospect for success where community, industrial,

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agricultural, and recreational areas are so interrelated. Equally important, *private enterprise* must be encouraged to contribute the special magic of American ingenuity to the solution of the problems. In one respect, public health has unique entree into environmental planning, since our mission has no vested interest other than maximizing the public health and well-being. Our role in agriculture, water resources, recreational areas, and fish and wildlife is confined to this objective.

In dealing with most insects which adversely affect the public, it becomes increasingly evident that the most effective results can be accomplished by directing control effort at the source. The insect groups to which I have made reference today originate from water, organic matter, and soil. While at first glance these three media appear to be distinct and different, a fascinating inter-relationship exists among the three. We visualize the long-range solutions to each of these problems to be basically conservational in nature. Water and land managed efficiently would make for greatly reduced mosquito production. In like manner, conversion of solid organic wastes into valuable soil additives through composting, offers a realistic goal toward which to work in the interest of domestic fly prevention.

In response to the ever-mounting pressures of a rapidly expanding population over most of the nation, it is inevitable that our problems in mosquito control specifically, and vector control in general are going to increase in magnitude and complexity. If we are to respond to this challenge, we must prepare to face it now—while we can still obtain the advantage of that "ounce of prevention."

## California League for Nursing Meets This Month

"Design for Nursing in the Sixties" is the theme of the 1961 California League for Nursing convention to be held in Fresno, April 20-22, with headquarters at the Hotel Californian and meetings at the Fresno Memorial Auditorium. The program will emphasize mutual participation at all levels of the community as a means to the solution of the problems of nursing.

Featured speakers will include Mrs. Margaret Giffin Ellsworth, former Director, Department of Hospital Nurs-

## Further Public Health Legislation Pending

Following is a summary of bills related to public health which have been introduced in the 1961 State Legislature between February 1 and March 1. Those bills introduced prior to February 1 were summarized in the March 1 issue of *California's Health*.

### SENATE BILLS

**SB 393** Senator Richards. **Coroners and coroners' inquests.** Referred to Judiciary Committee.

Requires the coroner to hold an inquest when requested by the district attorney, sheriff, city prosecutor, or chief of police. Authorizes coroner to hold inquest without a jury unless a jury is requested by district attorney, sheriff, city prosecutor, or chief of police.

Provides that the information secured by coroner relating to a cause of death may be preserved on recording discs or other similar recording media as alternative to reducing the information to writing.

Revises provisions relating to jury's verdict, specifying that the verdict is advisory, and deleting references to guilt.

Eliminates provisions authorizing coroner to bind over witnesses to testify before other officers or the superior court, to take recognizances from such witnesses, and to issue warrants for arrest.

**SB 586** Senator Thompson. **Clinical laboratories.** Referred to Business and Professions Committee.

Revises the educational and experience requirements for licensing as a clinical laboratory bioanalyst.

Provides for the issuance of a clinical laboratory bioanalyst's license in clinical microbiology and in clinical chemistry. Makes it unlawful for persons licensed in clinical microbiology and clinical chemistry to perform tests not within the scope of his license.

Makes it unlawful for a clinical laboratory, technologist or trainee to perform tests not within the scope of the license of the director of the laboratory.

Requires reports from clinical laboratories to clearly show the name of the director of the laboratory.

**SB 621** Senator Farr. **Cosmetics.** Referred to Public Health and Safety Committee.

ing, National League for Nursing; Dr. Robert Kroepsch, Director, Western Interstate Commission on Higher Education; Arnold E. Joyal, President, Fresno State College; Neva Stevenson, Consultant on Practical Nursing, NLN, and others.

The California Student Nurses' Association, the Visiting Nurse Association Council, the Council on Vocational Nursing, and the Council on Psychiatric and Mental Health Nursing, will also meet in conjunction with the CLN convention.

Prohibits the adulteration or misbranding of cosmetics. Defines what constitutes adulteration or misbranding. Provides for the removal from sale of cosmetics which are adulterated or misbranded.

**SB 695** Senator Rattigan. **Packaged dehydrated food.** Referred to Public Health and Safety Committee.

Deletes requirement that Department of Public Health establish the minimum nutritional values of packaged dehydrated food which is sealed and labeled as "emergency food pack," "disaster food pack," or "civil defense pack" or language of similar import.

**SB 705** Senator Miller. **Medical care for the aged.** Referred to Social Welfare Committee.

Establishes a medical care program for persons over 65 years of age who are not recipients of old age assistance and whose income does not exceed the maximum Social Security retirement benefit payable.

Requires the State Board of Social Welfare to determine the scope of care and services to be provided, within the limits of the terms of the act.

Defines the term "medical care and remedial care and remedial services."

Provides that such care and services shall be provided in the county hospital or other appropriate county medical facility, unless the county has no county hospital or medical facility, in which case the care or services is to be provided by a public or private hospital or facility pursuant to contract with county.

Appropriates to each county from the General Fund one-half of the amounts expended by the county under the program to meet the costs of care and services rendered, after consideration is given to federal funds available and payable to the county.

Subjects applicants for care and services to the same property qualifications as are applicable to old age assistance recipients, and gives county a claim against the estate of a recipient for care and services provided.

**SB 713** Senator Farr. **State civil service.** Referred to Committee on Governmental Efficiency.

Extends definition of "Armed Forces" used in the State Civil Service Law to include the United States Public Health Service.

**SB 735** Senator Farr. **Cremated remains: disposition of.** Referred to Judiciary Committee.

Deletes provisions making it a misdemeanor to dispose of cremated remains within a city or county except in a cemetery; to remove cremated remains from the primary registration district without a permit from the local registrar of vital statistics, and to remove cremated remains from the premises on which the cremation occurred without the authority of a removal permit. Makes other technical changes.

**SB 779** Senator Teale. **State Water Resources Development System.** Referred to Water Resources Committee.

Requires that system reservoirs be open to body contact sports where compatible with public health and safety requirements.

**SB 818** Senator Thompson. **Local health departments.** Referred to Public Health and Safety Committee.

Provides that the basic allotment to the administrative bodies of qualifying local health departments shall be \$24,000 per

county or 90 cents per capita per county, rather than \$16,000 per county or 60 cents per capita per county, whichever is the lesser.

Provides that the minimum per capita allotment from the balance of the appropriation, after deducting amounts allowed for the basic allowance, shall be 31 cents per capita.

**SB 819 Senator Thompson. Qualifications for licensing.** Referred to Business and Professions Committee.

Revises the qualifications for licensing as a clinical laboratory technologist and for registration as a clinical laboratory technologist trainee.

**SB 824 Senator Richards. Marriage.** Referred to Public Health and Safety Committee.

Eliminates requirement that certificate of registry of marriage include race or color of parties married and prohibits inclusion of such information in the certificate. In section relating to obtaining of marriage license, provides that applicants therefor shall not be required to state, for any purpose, their race or color.

**SCR 27 Senator Byrne. Migrant family housing needs.** Referred to Labor Committee.

Requests Division of Housing, Department of Industrial Relations, to study and report upon migrant family housing needs.

#### ASSEMBLY BILLS

**AB 1235 Mr. Ralph M. Brown. Meetings of the Cancer Advisory Council.** Referred to Governmental Efficiency and Economy Committee.

Requires all meetings of the Cancer Advisory Council to be open to public.

**AB 1247 Mr. Ralph M. Brown. Meetings of the Motor Vehicle Pollution Control Board.** Referred to Governmental Efficiency and Economy Committee.

Requires all meetings of the Motor Vehicle Pollution Control Board to be open to the public.

**AB 1292 Mr. Beaver. State aid to local health departments.** Referred to Public Health Committee.

Provides that the appropriation made by the State for the purposes of State aid to local health departments shall be an amount equal to at least 20 percent of total funds expended during the previous fiscal year by all local health departments from local appropriations for the support of such health departments.

**AB 1315 Mr. Wolfrum. Plastic bags; regulation of.** Referred to Public Health Committee.

Defines "clear legible type" as used in law regulating use of polyethylene plastic bags.

Prohibits use of bag made of polyethylene plastic material thinner than 0.001 inch which is large enough to fit over a child's head by any retail store as a container for products delivered to purchasers, other than for food products weighing not more than five pounds, or by any other retail business establishment to package article, if any cartoon, picture, or caricature is on such bag which will encourage their use as a toy by children under 12 years of age.

**AB 1317 Mr. George E. Brown. X-ray technicians.** Referred to Governmental Efficiency and Economy Committee.

Creates within jurisdiction of Department of Professional and Vocational Standards a Board of X-ray Technician Examiners of the State of California, composed of five members appointed by the Governor for four-year terms, and prescribes its powers and duties.

Provides for the issuance of an X-ray technician license to any person who uses roentgen rays or radioactive materials and roentgen-ray equipment for therapeutic or diagnostic purposes under the supervision or order of a radiologist or a physician and surgeon. Prohibits a person from practicing as an X-ray technician unless he has a license.

Authorizes persons meeting specified requirements to receive a license without taking the required examination.

**AB 1548 Mr. Rumford. Co-ordination of radiation and atomic energy activities.** Referred to Government Organization Committee.

Prescribes procedure for co-ordinating proposed rules or regulations of State departments and agencies re atomic energy development or radiation protection with existing rules and regulations.

Makes other technical changes.

**AB 1549 Mr. Rumford. Control of radioactive contamination of the environment.** Referred to Government Organization Committee.

Revises and expands provisions regulating disposal of radioactive wastes to also cover storage, transporting, and loading of radioactive wastes and radioactive contamination of the environment by nuclear installations and field tracer studies.

**AB 1590 Mr. Rumford. State aid for local health administrations.** Referred to Public Health Committee.

Provides that the basic allotment to the administrative bodies of qualifying local health departments shall be \$24,000 per county or 90 cents per capita per county, rather than \$16,000 per county or 60 cents per capita per county, whichever is the lesser.

**AB 1626 Mr. Hegland. Frozen food locker plants.** Referred to Public Health Committee.

Redefines term "frozen food locker plant" to include an establishment in which, for compensation, meat or meat products are cut, wrapped or frozen, rather than cut, wrapped, and frozen.

Provides that no fee shall be required for a frozen food locker plant where the only service is that, for compensation, meat or meat products are cut, wrapped, or frozen, rather than cut, wrapped, and frozen.

**AB 1634 Mr. Lunardi. Transportation of radioactive materials.** Referred to Transportation and Commerce Committee.

Transfers administration of law pertaining to transportation of radioactive materials from the State Fire Marshal to the State Department of Public Health. Eliminates requirement that regulations relating to such transportation be no more restrictive than those of Interstate Commerce Commission. Requires enforcement of law by officers charged with enforcement of Vehicle Code and permits enforcement by personnel of State Department of Public Health, Division of Industrial Safety, or city or county health department. Provides that Health and Safety

Code provisions do not preclude a city or county from adopting regulations to meet special local conditions in a manner consistent with state law and regulations.

**AB 1679 Mr. Cunningham. Hospital advisory board.** Referred to Public Health Committee.

Deletes requirement that the five years of experience that members of the hospital advisory board who are superintendents or administrators of hospitals are required to have experience in hospitals having a capacity of 100 beds or more.

**AB 1739 Mr. McMillan. State Building Standards Commission.** Referred to Governmental Efficiency and Economy Committee.

Increases the membership of the commission from 7 to 11, prescribes the qualifications of members to be appointed by the Governor, substitutes requirement that the Governor shall designate the chairman for one that the Director of Public Works serve as chairman, authorizes the commission to appoint an executive secretary, revises the powers and duties of the commission, and authorizes it to appoint advisory panels from the construction industry to advise it with respect to building regulations.

**AB 1749 Mr. Hawkins. Records of vital statistics.** Referred to Public Health Committee.

Changes fee for making copy of birth, fetal death, death, or marriage record from \$2 to \$1.

**AB 1775 Mr. Waldie. Malpractice insurance for public employees.** Referred to Governmental Efficiency and Economy Committee.

Requires public agencies to purchase and maintain in force malpractice insurance policies to protect their medical personnel employees against claims that may be brought or filed against them.

**AB 1873 Mr. Petris. Cremated remains.** Referred to Public Health Committee.

Provides that "cremated remains" means human remains reduced to fine particles after incineration, rather than human remains after incineration in a crematory, and allows cremated remains to be scattered.

Makes other technical changes.

**AB 1940 Mr. DeLotto. Polio immunization.** Referred to Education Committee.

Prohibits admission of any person to a public or private elementary or secondary school unless the person has been immunized against poliomyelitis.

Exempts persons presenting written statement indicating conflicting religious belief, except that such persons may be temporarily excluded upon presence of good cause for belief that they are suffering from the disease.

Exempts persons whose health would be endangered by the immunization.

Requires the State Department of Health to adopt and enforce rules and regulations to carry out the provisions of the chapter.

Requires county health officer to set up immunization program and school boards and governing authorities of private schools to cooperate with him.

Provides that the cost of the program is to be paid by fees from those immunized who are financially able, by funds made available by the school districts, and by county funds.

AB 1960 Mr. Munnell. Tuberculosis subsidy. Referred to Public Health Committee.

Provides that for all patient-days of care in excess of 36,500, a city or county shall receive \$2.30 per patient-day rather than \$2.30 for second 36,500 patient-days and \$1.78 per all patient-days in excess of that figure. Deletes provisions as to percentage of contributions that a city or county must offset against state subventions, and provides a method to offset all such contributions.

AB 1975 Mr. Lunardi. Radiation control. Referred to Public Health Committee.

Enacts the "Radiation Control Law" which provides for regulation, licensing and registration, and inspection of radiation sources by the State Department of Public Health; provides for a schedule of fees; records to be kept by persons possessing or using radiation sources; agreements between Governor and federal government for assumption by State of certain of federal government's responsibility regarding radiation sources; inspection agreements between the State and other agencies and training programs for personnel; local participation by cities and counties in radiation control; procedure for issuance, suspension or revocation of licenses, injunction proceedings to enjoin violations; prohibits uses of radiation sources; impounding of radioactive materials in event of emergency; and penalties for violations.

ACR 51 Mr. Belotti. Studies of Lake Earl Watershed. Referred to Committee on Rules.

Requests Department of Fish and Game, Department of Water Resources, University of California Agricultural Extension Service, and Department of Public Health to study and report to Legislature on various problems and potentials of Lake Earl and its watershed by the 1963 Regular Session.

## Western Institute on Maternal and Child Health

The University of California School of Public Health, University Extension, and the State Department of Public Health are cooperating in planning a one-week invitational institute for administrative personnel of maternal and child health programs and of crippled children services in the Western states. The Children's Bureau, USPHS, is financing the institute, and each state is selecting participants to represent it. The institute will focus on the prevention and treatment of neurologic handicaps in children and on program evaluation. It will be held on the Berkeley campus the week of June 19, 1961.

## Seat Belts Protect Dr. Erickson In Car Accident

Harold M. Erickson, M.D., Deputy Director of the State Department of Public Health, attributes his escape from serious injury in an automobile accident to the use of seat belts in his

## REPORTED CASES OF SELECTED NOTIFIABLE DISEASES CALIFORNIA, MONTH OF FEBRUARY, 1961

Disease	Cases reported this month			Total cases reported to date		
	1961	1960	1959	1961	1960	1959
<b>Series A: By Place of Report</b>						
Amebiasis	43	21	43	95	62	72
Coccidioidomycosis	14	12	18	29	33	48
Measles	2,715	1,403	4,305	4,533	2,376	6,957
Meningococcal infections	22	26	13	43	51	55
Mumps	3,462	2,089	1,257	6,587	4,022	2,276
Pertussis	134	101	160	273	234	348
Rheumatic fever	6	10	10	10	15	23
Salmonellosis	72	63	61	144	129	131
Shigellosis	133	111	93	252	242	173
Streptococcal infections, respiratory	1,660	3,000	2,274	3,525	6,508	4,046
Trachoma	—	—	21	—	—	21
<b>Series B: By Place of Residence</b>						
Chancroid	14	8	9	25	22	17
Conjunctivitis, acute newborn	1	1	2	1	2	3
Gonococcal infections	1,506	1,394	1,095	3,287	2,912	2,584
Granuloma inguinale	1	—	—	1	—	—
Lymphogranuloma venereum	2	—	2	2	7	5
Syphilis, total	517	624	483	1,078	1,152	959
Primary and secondary	116	114	62	218	213	134
<b>Series C: By Place of Contraction</b>						
Botulism	—	—	1	—	—	1
Brucellosis	1	3	3	3	3	3
Diarrhea of the newborn	—	2	—	2	5	7
Diphtheria	—	—	—	—	—	1
Encephalitis	23	33	24	47	64	51
Food poisoning (exclude botulism)	11	159	111	336	183	177
Hepatitis, infectious	423	257	238	923	487	450
Hepatitis, serum	10	7	3	26	12	10
Leprosy	1	—	2	1	2	3
Leptospirosis	—	—	1	—	—	1
Malaria	—	—	2	—	—	6
Meningitis, viral or aseptic	29	21	32	54	56	68
Plague	—	—	—	—	—	—
Poliomyelitis, total	6	10	17	14	32	28
Paralytic	3	9	14	9	29	24
Nonparalytic	3	1	3	5	3	4
Psittacosis	1	1	3	2	3	4
Q fever	1	2	1	1	4	2
Rabies, animal	16	10	3	27	24	8
Rabies, human	—	—	—	1	—	—
Relapsing fever (tick borne)	—	—	—	—	—	—
Rocky Mountain spotted fever	—	—	—	—	—	—
Tetanus	1	2	4	4	2	7
Trichinosis	3	—	—	3	—	—
Tularemia	—	—	—	—	—	—
Typhoid fever	3	1	7	6	3	13
Typhus fever (endemic)	1	—	—	1	—	—
Other*	—	—	—	—	—	—
Tuberculosis <sup>1</sup>	—	—	—	714	769	892

\* This space will be used for any of the following rare diseases if reported: Anthrax, Cholera, Dengue, Relapsing Fever (louse borne), Smallpox, Typhus Fever (epidemic), Yellow Fever.

<sup>1</sup> Tuberculosis cases are corrected to exclude out of State residents and changes in diagnosis; monthly figures are not published.

car. The accident occurred in the afternoon of March 1st as Dr. Erickson was returning from San Francisco to Berkeley via the Oakland Bay Bridge. An oncoming sedan was forced over the divider strip by another car, struck the left side of Dr. Erickson's car, and careened off into the car behind his. A total of five automobiles were involved in the accident. Damage to Dr. Erickson's car was estimated at \$700 to \$800.

Because the seat belt held him securely, Dr. Erickson was able to

maintain control of his car and bring it to a halt. He suffered only minor injury. Dr. Erickson now recommends more strongly than ever not only the installation of seat belts, but their use in all driving situations.

During the last three years, more than 500 state health department employees have purchased seat belts for their cars in response to drives undertaken by the California State Employees Association. All state-owned cars are equipped with seat belts, and their use is mandatory.



## James T. Harrison, M.D., Joins Department Staff



James T. Harrison, M.D., M.P.H., joined the staff of the California State Department of Public Health in March as Regional Medical Coordinator for Region II. He succeeds Dr. Hamlet Pulley, who became Assistant Director of the Department in June, 1960. Dr. Harrison recently returned from a year's tour of duty in Honduras with the International Cooperation Administration. He had been with Sonoma County as health officer since finishing his training in 1956 and until his appointment to ICA.

Dr. Harrison is a native Californian. He received his A.B. from the University of California at Berkeley in 1947, after serving with the U.S. Armed Forces during World War II. He began his medical studies at Northwestern University but returned to finish at the University of California and receive his M.D. degree. After interning at Long Beach Veterans Administration Hospital and serving as resident in public health at the Los Angeles City Health Department, Dr. Harrison returned to Berkeley and completed work for his M.P.H. at the School of Public Health in 1956.

### CALENDAR

**April 7**—World Health Day

**April 17-19**—California Health and Welfare Association, Annual Conference, Los Angeles

**April 20-22**—California League for Nursing, Annual Convention, Fresno

**June 2**—Northern California Public Health Association, Annual Meeting, San Mateo

**June 26-29**—Western Branch, APHA, Annual Meeting, in conjunction with U.S.-Mexican Border Public Health Association, Annual Meeting, San Diego

## Dr. Leavell to Present Nyswander Lecture

"Health Education in Practice" will be the subject of the fifth annual Dorothy B. Nyswander Lecture to be presented at the School of Public Health of the University of California at Berkeley April 21, 1961. Hugh R. Leavell, Dr. P. H., Professor of Public Health Practice and Assistant Dean, School of Public Health, Harvard University, will give the lecture, which is sponsored by the School of Public Health and the Committee on Drama and Lectures of the University.

Dr. Leavell is co-author of a book, *Preventive Medicine for the Doctor in His Community*, published in 1958. He is a past president of the National Health Council, has been a Ford Foundation health consultant to India, and is a past president of the American Public Health Association.

The Dorothy B. Nyswander lecture series has been established by friends and colleagues to honor Dr. Dorothy B. Nyswander, Professor Emeritus, School of Public Health, University of California, for her contributions to the field of public health education in this county and throughout the world.

Previous speakers have been, Dr. Mayhew Derryberry, Chief, Public Health Education Services, Public Health Service; Dr. Gordon Allport, Professor of Psychology, Harvard University; Dr. Cora DuBois, Professor of Anthropology, Harvard University; and Dr. Kingsley Davis, Professor of Sociology and Social Institutions, University of California.

The lecture will be given at 8 p.m. in room 22 of Earl Warren Hall on the Berkeley campus. The public is invited.

## Personals

**Ralph J. Black** has left the State Department of Public Health after 10 years service with the Bureau of Vector Control as technical consultant on organic wastes management. He has joined the General Engineering Program, Division of Engineering Services, U.S. Public Health Service. He will conduct the solid wastes engineering activities for the Service, and will assist the regional program directors by providing technical assistance and consultation on solid wastes engineering problems.

**Edward S. Rogers, M.D.**, Professor of Public Health and Medical Ad-

## Air Pollution Control Ordinance Adopted by Monterey County

Monterey County's first ordinance dealing with the discharge of air contaminants was passed by the Board of Supervisors in January 1960. The ordinance was the result of two years of study and conferences by the Monterey County Air Pollution Control Advisory Committee. This committee had broad community representation and worked closely with representatives of the county, cities, and industry.

The ordinance prohibits the discharge of pollutants that are dark or darker in shade than No. 2 on the Ringlemann Chart or equivalent opacity. It limits the emission of particulate matter to 0.4 grains per cubic foot (60° F. and 14.7 pounds per square inch absolute) and the emission of sulfur compounds to 0.2 percent by volume. It also includes general requirements regarding public nuisances. The Monterey County Health Officer has been designated as the control officer.

At present the ordinance applies only in the unincorporated areas of the county. Cities are expected to take the ordinance under consideration and determine if they should adopt similar ones in order to have a uniform countywide approach.

Existing sources of emissions are exempt from complying with the ordinance for a period of five years.

ministration, University of California at Berkeley, has been appointed chairman of the new Human Ecology Study Section of the National Institutes of Health, USPHS. Among the experts serving with Dr. Rogers will be **William H. Clark, M.D.**, Assistant to the Chief, Division of Research, California State Department of Public Health.

**Emil E. Palmquist, M.D.**, has been appointed medical director of the regional offices of the Public Health Service in Charlottesville, Virginia. He has been a public health consultant in the San Francisco regional office since 1957, when he rejoined the Public Health Service after two years as Director of Public Health for the City of Berkeley and Clinical Professor of Public Health Administration at the U.C. School of Public Health.

## Public Health Positions

### Orange County

**Medical Social Worker:** Salary range, \$489-\$608. Requires college graduation and two years graduate study, or one year graduate study and two years experience in medical social work. Apply to Orange County Personnel Department, 801-C North Broadway, Santa Ana. Phone: KI mberly 7-3311, extension 331.

### Sacramento County

**Chief of Health Education Services:** Salary range, \$540 to \$657. MPH in health education preferred. Apply by April 21, 1961, to Austin W. Matthis, M.D., Health Officer, Sacramento County Health Department, 2221 Stockton Blvd., Sacramento.

### San Luis Obispo County

**Director of Public Health Nursing:** Salary range, \$505-\$607, starting level to \$554, negotiable. Staff of eight PHNs; generalized program. Requires California PHN certification and supervisory experience.

**Sanitarian:** Salary range \$419-\$505, starting level to \$460, negotiable. Registration or eligibility required.

For further information about either of the above positions, write Health Officer, P.O. Box 360, San Luis Obispo, California.

### Sonoma County

**Public Health Nurse:** Salary range, \$429-\$515. Requires California RN and PHN certificates.

**Health Analyst:** Salary range, \$449-\$539. Candidates may qualify to start at second or third step. Minimum qualifications: graduation from an accredited college or university with specialization in statistics in public health or a closely related field, and some full-time, paid experience in technical work with statistics desirable.

Excellent working conditions, 15 days annual vacation and 12 days sick leave. For more information about either position write to Sonoma County Civil Service Commission, Room 110, County Administration Building, 2555 Mendocino Avenue, Santa Rosa.

## Tuberculosis Case Finding in San Francisco Schools

The tuberculosis skin testing program for San Francisco's school children continues to be a very productive case finding procedure. Children in grades one, seven, ten, and twelve, are tested once each year, as are all students new to San Francisco's schools. All previously known positive reactors who had a marked degree of induration are excluded from the testing, but the previously known reactors who had a moderate amount of induration are retested because of the instability of the reactions in this area.

During the 1959-60 school year, 34,028 children were tested. Of these, 2,267, or almost 7 percent were positive reactors. The follow-up of positive reactors located 54 new cases of tuberculosis among the school children and 39 cases among their contacts in the home.

Of the 54 cases discovered among school children, 30 showed primary in-

fection, 18 cases were minimal pulmonary tuberculosis, one was moderately advanced, two were pleural effusions, two were cervical adenitis, and one was tuberculosis meningitis.

Among the 39 contacts in the home, 11 were primary cases, six were minimal pulmonary tuberculosis, eight were moderately advanced, and 14 were far advanced cases.

The 54 newly diagnosed cases found in the schools in 1959-60 represents a case rate of 1.6 per 1,000 for the school population tested. The total of 93 combined school cases and family contact cases represents 2.7 cases per 1,000 students tested. These figures are typical of San Francisco's experience with the school tuberculin testing program conducted since 1956.

Two Canadian scientists, Dr. L. Lorlick and J. P. O'Neill of the University of Saskatchewan, reporting in the *Lancet*, state that by modifying foodstuffs at the early production stage, people in Western countries may be able to keep their blood cholesterol levels low.

By feeding hens a dietary supplement of 10 percent sunflower seed oil these investigators have developed eggs free of saturated fats. A sixfold increase in the amount of unsaturated fatty acids has been reported.

Volunteers on a normal diet including ordinary eggs maintained high serum cholesterol levels, but when they consumed 10 of the experimental eggs a day, their cholesterol levels fell.—*Medical News*, Vol. 4, No. 15.

### State of California

**Nursing Consultant:** Salary range, \$584 to \$710. Open examination, statewide, May 6. Final filing date, April 14. Position is with the State Department of Public Health. Applicants must have a valid license as a registered nurse and a California PHN certificate. Also four years of public health nursing experience in a generalized program, including two years in an administrative, supervisory, consultative or teaching capacity. For further details write California State Personnel Board, 801 Capitol Avenue, Sacramento; or the branch offices at 515 Van Ness Avenue, San Francisco; or 107 South Broadway, Los Angeles.

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